

Conclusions.— In PD, 8 weeks of intensive physical therapy improve movement scaling only on the more affected side. These findings suggest an enhanced dopaminergic input in the more affected nigrostriatal pathways after intensive motor training in PD.

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Getting up from the ground in Parkinson's disease: Effects of a standardized intensive physical therapy program

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Keywords: Parkinson's disease; Standardized therapy program; Getting up from the ground

Objective.— Hypometria and bradykinesia alter mobility in Parkinson's disease (PD), making standing up from the floor difficult. We evaluated the effects of a standardized, intensive home rehabilitation program.

Methods.— Twenty-one PD patients (age 68 ± 10) were evaluated using the Global Mobility Test (GMT, involving filming and timing of the task of standing up from the floor) in the practically defined OFF-state before and after an 8-week intensive home therapy program involving aerobic and strengthening exercises, 1 hour 3 times a week for 8 weeks, and re-assessed 3 months after the end of the program ($n = 10$).

Results.— Time to stand up from the floor was improved at 8 weeks (D1, 37.8 ± 7.4 s; D60, 26.9 ± 4.6 s, $P < 0.05$, Wilcoxon). The most improved part was the getting up from "knight position" (D1, 12.3 ± 4.1 s; D60, 5.2 ± 1.3 s, $P < 0.01$). Improvements persisted at D150 ($n = 10$; D1 39.2 ± 9.9 s; D60 25.6 ± 5.1 s; D150 19.6 ± 4.7 s, $P < 0.05$).

Conclusion.— An 8-week intensive home therapy program in PD involving appears to produce functional effects comparable to those of dopaminergic drugs. This study also suggests persistence of these effects 3 months after the end of the program, probably as patients retained the teaching of exercises that they continued to practice at home.

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Posters

P401-e

Neurocognitive rehabilitation in Parkinson's disease: Case report

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Keywords: Gait; Neurocognitive rehabilitation; Balance

Objective.— Our aim is to verify the validity of neurocognitive rehabilitation grounding on the observation of perceptive as well as motor disorders in Parkinson's disease (PD).

Methods.— A 49-year-old woman with a clinical history of PD since 2001 was enrolled. She attended twenty sessions (1 hour each) of neuro-cognitive rehabilitation, twice a week over 3 months. Outcomes included self-confidence in gait (primary), the course of disease and pain as a freezing's prodrome (secondary), Unified Parkinson's Disease Rating Scale, Tinetti Balance and Gait Evaluation, Visual Analogue Scale, at the beginning (T0) and at the end of the treatment (T1), with a follow-up 3 months after the end (T2).

Results.— A decrease in the risk of falling, both when standing and during gait, was observed between T0, T1 and T2.

Discussion.— Neuro-cognitive rehabilitation may be considered effective in people with PD.

Further reading

Nieuwboer A, Giladi N. Characterizing freezing of gait in Parkinson's disease: models of an episodic phenomenon. *Mov Disord* 2013;28(11):1509–19.

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P402-e

tDCS to treat freezing of gait in Parkinson's disease: A single-case design

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Keywords: Parkinson's disease; Transcranial direct current stimulation;

Freezing of gait

Objective.— We investigated the effects of transcranial Direct Current Stimulation (tDCS) in a 50-year-old subject suffering from Parkinson's disease, complicated by drug-resistant freezing of gait (FOG).

Methods.— Three sessions of 2.0 mA cathodal tDCS were carried out, 30 days apart from each other. In the first session, tDCS was delivered to the prefrontal cortex, in the second one to the parietal cortex, while in the last, a sham-stimulation of the prefrontal cortex was done. Right and left hemispheres were separately stimulated in each session. Outcomes included performance time and number of FOG events during the Timed Up-and Go test, UPDRS-III and cognitive performances.

Results.— Prefrontal stimulation abolished FOG events, though providing a lower effect on TUG time than parietal stimulation. Parietal cortex tDCS improved single-TUG time up to 34%, with minor impact on dual-task time, and negligible effect on FOG events. UPDRS-III decreased after both prefrontal and parietal stimulation (by 31% and 36% respectively). Cognitive task scores increased after prefrontal stimulation, though not after parietal stimulation. No changes in motor or cognitive outcomes resulted from sham stimulation.

Discussion.— Prefrontal cortex tDCS may improve specific motor and cognitive performances in Parkinson's disease.

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P403-e

Comparative efficacy and safety of botulinum toxin type A and B in treating Parkinson's disease-related sialorrhea: A pre-test post-test study

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Keywords: Parkinson's disease; Botulinum toxin; Sialorrhea

Objective.— We compared the efficacy and safety of botulinum toxin type A (BTX-A) and B (BTX-B) in Parkinson's disease (PD) patients suffering from disabling drooling.

Methods.— Forty-four subjects (PD duration: 14.8 ± 6.6 years) with severe drooling were randomized into two groups, either receiving BTX-A (50 U Botox in each side) or BTX-B injections (2000 U Neurobloc in each side) in the parotid glands. Outcome measures included visual analogue scale for the assessment of drooling-related family (VAS-FD) and social (VAS-SD) distress, the Sialorrhea Scoring Scale (SSS), UPDRS-ADL scores of speech and dysphagia items to appraise side effects, immediately before treatment and after one month.

Results.— At one month, all subjects reported an improvement of VAS-FD (time effect: $F = 82.7$, $P < .0001$) and VAS-SD ($F = 74.5$, $P < .0001$) following drooling reduction; the SSS score improved by 60% ($F = 197$, $P < .0001$). A greater impact of BTX-B was appreciated for both the VAS-SD score (time \times treatment effect: $F = 8.1$, $P = .005$) and the SSS score ($F = 17.2$; $P < .0001$). Neither swallowing ability nor speech worsened after treatment.

Discussion.– Bilateral parotid botulinum toxin injection is a safe and effective treatment for severe sialorrhea in subjects with PD. Serotype B produced larger effects, while as safe as serotype A.

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P404-e

Transdisciplinary program of physiotherapy- speech therapy-adapted physical education (APE) in the rehabilitation of Parkinsonian dysarthria

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Keywords: Parkinson; Dysarthria; Transdisciplinary rehabilitation

Background.– Parkinson's disease is characterized by motor disorders, impaired ambulation and grip. Dysarthria and hypophonia also disable patients, increasing social isolation. The combination of mechanisms such as poor voice intensity, posture and breathing difficulties, loss of endurance, makes rehabilitation complex.

Objectives.– To propose a multidisciplinary rehabilitative physiotherapy-speech therapy program and evaluate its evolution.

Methods.– The first program included 3 patients, allowing us to try a program of 8 weekly sessions of physiotherapy and orthophony for rehabilitation of dysarthria. Different units built the session: awareness, breathing, posture, voice. The second program was modified: five-patient group, 2 sessions per week, an expanded physiotherapy-orthophony program, introduction of adapted physical education (APE).

Results.– The second program proved its feasibility and brought functional benefits for patients, while increasing their enthusiasm.

Discussion.– APE complements physiotherapy and speech therapy. The program now offers earlier environmental objectives, with involvement of the environment and volunteers.

Further reading

Tomlinson CL, et al. Physiotherapy intervention in Parkinson's disease: systematic review and metaanalysis. *BMJ* 2012;345:e5004.

Keus SHJ, et al. Physical therapy in Parkinson's disease: evolution and future challenges. *Mov Disord* 2009;24:1–14.

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P405-e

Dispositional optimism and Parkinson's disease

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Keywords: Disability; Dispositional optimism; Parkinson's disease

Background.– Few articles deal with Dispositional Optimism (DO) in the field of Parkinson's disease (PD). Yet, personality traits may have a role when people cope with their illness.

Methods.– This cross-sectional study consisted of a regression analysis between a DO and health-related variables, such as depression, anxiety, quality of life and activities of daily living, in 70 PD patients. Means of log-linear regression were also used. Mean ratios adjusted for sex, age, education, and severity of disease were estimated.

Results.– DO is predictive of satisfactory QoL and low emotional distress at least in the early stages of PD.

Discussion.– A PD patient should not be viewed as a defective biomechanical device, but as a person who experiences illness, disability or restriction in social participation and actively strives for activities of daily living.

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P406-e

Dispositional optimism improves outcome in Parkinson's disease rehabilitation

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Background.– The role of Dispositional Optimism (DO) in the field of Parkinson's disease (PD) rehabilitation has not been assessed.

Methods.– Fifty-eight PD patients completed the Revised Life Orientation Test (LOT-R) for Optimism, the WHO-5 scale for quality of life (QoL), the Hospital Anxiety and Depression Scale (HADS) test for emotional distress, and the Barthel scale for disability and were assessed using disease stage and severity measures (UPDRS). Correlations and multivariate regressions analyses compared Optimism with the health-related variables.

Results.– A higher level of DO at admission was associated with less severe disease, better QoL and lower emotional distress, but not with level of disability. The level of DO did not change after rehabilitation, while anxiety was significantly reduced especially in those with lower LOT-R and high HADS. The Barthel scale significantly improved independently from the level of DO.

Conclusion.– PD patients with higher DO generally had better QoL, clinical and psychological performances. Therefore, personality traits should be considered in PD because they can influence outcome. DO is predictive of Quality of life and anxiety levels both at admission and after 4 months at time of discharge. DO and Depression scores are unchanged by the rehabilitative intervention.

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P407-e

Rehabilitation program in order to prevent ambulatory activity decline in Parkinson's disease

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Keyword: Parkinson disease

Background.– Parkinson disease (PD) is a degenerative disorder of the central nervous system affecting movement which results in ambulatory decline. Ambulatory activity depends on the disease severity.

Objective.– This study investigated ambulatory changes after rehabilitation.

Methods.– Twenty-one patients with PD with similar clinical manifestations were assessed using the Unified Parkinson Disease Rating Scale, the 6-Minute Walk, and Maximal Gait Speed, before and after the same rehabilitation program.

Results.– All participants increased amount and intensity of daily ambulatory activity. Declines occurred in the individuals that stopped the program.

Conclusion.– Continuous rehabilitation program is beneficial to patients suffering from PD.

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P408-e

A review on tremor quantification methods–Toward rhythmicity measurements?

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Keywords: Tremor quantification methods; Rhythmicity; Diagnosis; Clinical categorization

Tremor is characterized by involuntary, oscillatory motions of a body part, due to reciprocal antagonistic muscle activations. The two main tremor types are rest